ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	CC Docket No. 92-166
To Establish Rules and Policies	)	
Pertaining to a Mobile-Satellite	)	
Service in the 1610-1626.5/	)	
2483.5-2500 MHz Frequency Bands	)	

To: The Commission

PETITION FOR PARTIAL RECONSIDERATION AND CLARIFICATION

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November 21, 1994

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SUMMARY

TRW Inc. ("TRW") seeks partial reconsideration and clarification of the Commission's Report & Order in CC Docket No. 92-166 ("R&O"). TRW emphasizes that it endorses fully the fundamental aspects of the Commission's decision, i.e., both the "permanent" and "interim" sharing plans. Nonetheless, certain specific aspects of the R&O require clarification or modification in the interest of fostering a successful and fully competitive 1.6/2.4 GHz MSS service.

The Commission should clarify that to demonstrate that they are "fully compatible" with MSS operations, other potential users of the LEO MSS bands must, regardless of the stage of LEO MSS system implementation, demonstrate that they will not interfere with or limit in any way the potential system capacity of primary MSS operators; and, specifically, that any interim providers of RDSS on GSO satellites must cease operation when the MSS providers begin launching their systems. With respect to the U.S. coverage requirement, in order to ensure that applicants can meaningfully serve the areas they are required to cover, the FCC should commit to coordination efforts to extend the MSS U.S. spectrum sharing plan throughout North America (Canada, Mexico and the Caribbean basin).

The Commission should reverse its decision permitting AMSC to be considered an applicant for a system in these bands. AMSC did not seek to use these bands to construct a satellite system until the amendment deadline. Previously it sought use of only a portion of the L-band spectrum to modify its existing domestic GSO MSS authorization. The GSO MSS and the 1.6/2.4 GHz MSS are different radio services. Once it decided to limit the new service to LEO systems, the Commission took AMSC out of contention.

AMSC cannot be permitted to bootstrap itself into further consideration here by "amending" a GSO MSS modification application to become a 1.6/2.4 GHz MSS system application. Indeed, AMSC itself evidences no genuine interest in building a LEO system, merely in keeping its proposed GSO use of the bands before the Commission.

The Commission should provide a third alternative for limiting out-of-band emissions of 1.6/2.4 GHz MSS mobile earth stations operating in the vicinity of RAS sites, permitting stations to limit out-of-band emissions on a per megahertz basis, as suggested in TRW's initial comments. The FCC also should provide that, in the event that MSS licensees and the ESMU cannot reach agreement regarding beacon systems, the FCC will serve as a final arbiter in deciding this issue.

The Commission should correct the erroneous implication created in the R&O that ITU Radio Regulations impose separate requirements on MSS satellite systems not to exceed certain set e.i.r.p. levels and to avoid harmful interference to stations operating under RR 732. MSS earth stations operating with stations that do not radiate an e.i.r.p. density greater than that specified by RR 732 do not, by definition, cause harmful interference to stations operating under RR 732. The Commission should also clarify that ITU RR 2566 established a trigger level for coordination, and that it will permit LEO MSS operators to obtain interim waivers of this restriction for domestic operation prior to changes in the international regulation. The Commission should also make clear that its existing rules place upon fixed service/wireless cable operators the obligation to ameliorate any out-of-band interference to LEO MSS operators below 2500 MHz.

Currently, the Commission is withholding specific assignments of feeder link spectrum. TRW intends to pursue feeder link frequencies in the 20/30 GHz bands. Nonetheless, should sufficient spectrum be made available in frequencies below 15 GHz, TRW would expect an opportunity to modify its system authorization to specify feeder links in the lower frequency ranges. In addition, the Commission should clarify its rules affecting band sharing between MSS feeder links and fixed-satellite service systems to make clear that the latter do not have additional protections in these bands inconsistent with the co-primary status of the MSS and FSS services. Thus, the FCC should remove the references to non-geostationary space stations in rule 25.203(k) so as to adhere to the version of that rule recommended by the Committee.

The Commission should alter its approach to milestone schedules to make them flexible enough to accommodate changes in business plans or capacity needs, provided that a licensee is in substantial compliance with the domestic and global service requirements with the satellites already launched and in service when postponement is requested. Moreover, MSS Above 1 GHz operators that report missed construction milestones should not have their authorizations rendered "null and void", but should be ordered to show why their authorization should not be revoked.

Finally, the FCC has failed to address the parties' request that MSS licensees be prohibited from seeking or accepting an exclusive assignment of the 1.6 GHz band segment or otherwise entering into any arrangement that would exclude other MSS systems

from providing service in any foreign country. The FCC should prohibit MSS licensees from entering into any arrangement in any foreign country that would grant any MSS licensee or licensees any special concession or exclusive market access.

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PETITION FOR PARTIAL RECONSIDERATION AND CLARIFICATION

TRW Inc. ("TRW"), by its attorneys and pursuant to Section 1.429 of the Commission's Rules,[1/] hereby seeks both partial reconsideration and clarification of the Commission's Report and Order in the above-captioned docket, FCC 94-261 (released October 14, 1994) ("R&O"). TRW's long-term participation and fundamental role in these proceedings as the developer of the Odyssey™[2/] mobile-satellite system is well-known. As a result of this long involvement, TRW is especially cognizant of the Commission's tremendous efforts toward fostering the

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1/ See 47 C.F.R. § 1.429 (1993).

2/ "Odyssey" is a trademark of TRW Inc. Odyssey™ is a satellite telecommunications system which is to be comprised of a constellation of twelve satellites in medium-Earth orbit.

development and implementation of the low-Earth orbit ("LEO")[3/] Mobile-Satellite Service ("MSS") in the 1.6/2.4 GHz bands (hereafter, "the 1.6/2.4 GHz MSS service"). TRW appreciates the Commission's efforts to expedite the finalization of rules and policies applicable to this service.

TRW agrees with much of the R&O, including most significantly, the parameters both of the Commission's "permanent" sharing plan, and the interim sharing plan in effect until 1.6/2.4 GHz MSS systems no longer have to protect the Russian "GLONASS" system's operations, i.e., until GLONASS operations are moved below 1606 MHz. The requirement that the new U.S. systems share the burden of any spectrum loss due to delays in the relocation of GLONASS is a critical element of the fair and equitable balance struck by the Commission.

In compliance with the requirements set forth in the R&O, TRW filed just five days ago the requisite conforming amendment to its application for authority to construct Odyssey™, along with an application for authority to launch and operate the system. TRW looks forward to the opportunity presented by the Commission to move quickly to licensing, construction, and deployment of Odyssey™. However, TRW believes that the Commission's desire to move quickly has caused it to overlook or inadequately explain several significant issues that were initially raised in or in response to its NPRM. For this reason, TRW is asking the Commission to review its

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3/ In this Petition, TRW uses the term "LEO" to encompass all system designs that employ non-geostationary orbits, as the Commission has throughout this proceeding. See, e.g., Amendment of the Commission's Rules to Establish Rules and Policies Pertaining To a Mobile-Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 9 FCC Rcd 1094, 1097 n.6 (1994) ("NPRM").

treatment of these issues and, as appropriate, either adopt additional rules or policies, or provide the requested clarification.

I. LICENSING PROCEDURES

A. The Commission Should Ensure That Any Geostationary Satellite Operations In The 1.6/2.4 GHz Bands Are Truly Secondary To The 1.6/2.4 GHz MSS.

In the R&O, the Commission properly rejected unsupported contentions by geostationary ("GSO") MSS proponents that such systems could match the coverage and real-time communication capabilities of LEO 1.6/2.4 GHz MSS systems.[4/] Nonetheless, the Commission did state that it "would consider authorizing a GSO system in these bands upon a showing that its operations would not cause interference to or affect LEO operations."[5/] In TRW's view, the Commission must clarify this statement by emphasizing that any entity seeking to use the 1.6/2.4 GHz bands for a non-compliant GSO system -- whether MSS or not -- must, as a consequence of its secondary status, demonstrate that its proposal will not in any way interfere with or limit the potential system capacity of the primary MSS operators.

The Commission must make clear that the prohibition on "affecting" 1.6/2.4 GHz MSS operations will be applied, regardless of the stage of 1.6/2.4 GHz MSS system implementation, to prohibit any impingement of the not-yet-utilized system capacity of 1.6/2.4 GHz MSS systems, not just capacity already in use. Because of the large amounts of capital necessary to finance global satellite systems,

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4/ See R&O, FCC 94-261, slip op. at ¶ 15.

5/ Id. at ¶ 20.

and the fact that the entities making the necessary investments are relying on an expectation that there will be enough spectrum available on a long-term basis to enable a viable business to be established and sustained, system operators cannot be subjected to the prospect that alternative technologies will be allowed to use the same bands in a manner that will in any way artificially limit the amount of capacity that the 1.6/2.4 GHz LEO systems could otherwise obtain.[6/]

B. The Commission Should Undertake To Extend Its Spectrum Sharing Plan To All Of North America, To Enable Meaningful Implementation Of Its U.S. Coverage Requirement.

TRW supports the Commission's requirement that 1.6/2.4 GHz MSS systems be capable of providing MSS "on a continuous basis throughout the fifty states, Puerto Rico and the U.S. Virgin Islands."[7/] TRW urges the Commission to recognize, however, that 1.6/2.4 GHz MSS applicants may be unable to provide meaningful service to all parts of these areas if the Commission does not reach coordination agreements to extend the U.S. spectrum sharing plan throughout North America.[8/]

6/ The Commission should clarify that the "fully compatible" requirement means that RDSS service packages on GSO satellites may cause no loss in capacity and no interference to 1.6/2.4 GHz MSS systems. Accordingly, those packages currently authorized must abide fully by the restrictions in their authorizations requiring them to cease operation as soon as the first 1.6/2.4 GHz MSS satellite is launched. See, e.g., Newcomb Communications, Inc., 8 FCC Rcd 3631, 3634 (Com. Car. Bur. 1993). Any future RDSS authorizations should be similarly restricted.

7/ See R&O, FCC 94-261, slip op. at Appendix B, new rule section 25.143(b)(2)(iii).

8/ If, for example, Canada were to allow a U.S. FDMA/TDMA system to operate bi-directionally across the 1613.8-1626.5 MHz band, CDMA system uplinks could be

(continued...)

In short, the national licensing activities of other countries could make it impossible for some or all of the U.S. 1.6/2.4 GHz MSS licensees to provide service in a manner that fulfills the policy objective that underlies the U.S. coverage capability showing. As a result, and in addition to its general promise to "work with the global community to promote mobile satellite services through the development of sharing techniques and the exploration of other technical issues,"[9/] the Commission must specifically commit to undertake coordination efforts to extend the U.S. spectrum sharing plan throughout North America, i.e., Canada, Mexico and the Caribbean basin.

C. AMSC Should Not Be Permitted to Prosecute an "Amendment" To Its System Modification Application to Maintain Itself As A New System Applicant In The Current 1.6/2.4 GHz MSS Processing Group.

TRW believes that the Commission has erred in allowing AMSC Subsidiary Corporation ("AMSC") the opportunity to amend its "application" in this proceeding.[10/] As TRW has pointed out before, AMSC's status here has always been tenuous because its participation has been premised not on a full system proposal

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[8/](...continued)
disrupted in substantial areas of the United States, including large portions of Alaska and the northern tier of states. Similar disruption could result in southern portions of the United States, Puerto Rico and the U.S. Virgin Islands if Mexico or the nations of the Caribbean basin were to authorize MSS use of the 1.6/2.4 GHz bands in a manner that is not consistent with the Commission's U.S. spectrum sharing plan.

[9/] R&O, FCC 94-261, slip op. at ¶ 211.

[10/] See R&O, FCC 94-261, slip op. at ¶ 59 ("a change from a GSO system configuration to a LEO configuration to meet our satellite system design requirement . . . would be permitted without affecting a particular application's status in this processing group").

for these bands, but upon what AMSC itself styled as a "modification" to the two "wing" satellites in its domestic GSO MSS system (previously authorized in the 1545-1559 MHz and 1646.5-1660.5 MHz bands)[11/] -- a change which it stated it could implement for as little as $2 million.[12/] AMSC, therefore, has never had a system application pending for the 1.6/2.4 GHz bands; in fact, it sought authority to use only a portion of the L-band (and none of the S-band at 2483.5-2500 MHz)[13/] to provide a type of MSS that the Commission has said is secondary here.[14/] Given these facts, AMSC cannot now be permitted to amend a mere $2 million modification application to seek authority to build an entirely distinct $3 billion LEO MSS system in these bands. AMSC's new application to construct, launch and operate a LEO system thus cannot be considered anything other than a new system proposal, which is not eligible for consideration, in either a current or deferred group, with the five 1.6/2.4 GHz system proposals that were filed approximately three-and-a-half years before November 16, 1994.

11/ See R&O, FCC 94-261, slip op. at ¶ 7 n.17. Serious legal and procedural challenges to AMSC's initial June 1991 application remain pending, and TRW intends to pursue them. See, e.g., TRW's Petition to Deny or Dismiss, File Nos. 15-DSS-MP-91 and 16-DSS-MP-91, filed December 18, 1991.

12/ See AMSC Application, File Nos. 15-DSS-MP-91 and 16-DSS-MP-91, at 8 (Section M) (filed June 3, 1991).

13/ See Public Notice, Report No. DS-1134, released October 24, 1991 (describing AMSC's modification application, including request for a service downlink allocation at 1515-1525 MHz, which the Commission has rejected).

14/ See R&O, FCC 94-261, slip op. at ¶ 20.

Moreover, AMSC's belated embrace of LEO system technology is inherently incompatible with the positions it has taken throughout this proceeding that promote GSO MSS system use of the subject bands.[15/] Indeed, in its cover letter transmitting its "amendment" to the Commission, AMSC itself implies that it does not have a genuine interest in constructing a LEO satellite system in these bands. Instead, it states that its submission is intended to show "its interest in remaining in the current processing group for the frequency bands at issue."[16/] AMSC goes on to state that it will continue "to try to convince the Commission to permit AMSC to access at least a portion of the bands as part of AMSC's domestic geostationary system."[17/] This latter statement apparently ignores the fact that some GSO MSS use of these bands is not fundamentally inconsistent with the terms of the R&O.[18/] More significantly, assuming arguendo, that AMSC could be permitted to turn a GSO modification application into a LEO system application, such a step would leave AMSC without a pending 1.6/2.4 GHz band GSO application to pursue.

15/ AMSC's comments throughout this proceeding have been nothing but condemnatory of LEO satellite technology. See, e.g., Comments of AMSC, CC Docket No. 92-166, at 27 et seq. (filed May 5, 1994).

16/ Letter from Brian B. Pemberton, President, AMSC, to William F. Caton, Secretary, FCC, dated November 16, 1994.

17/ Id.

18/ See R&O, FCC 94-261, slip op. at ¶ 20 (GSO systems eligible to use bands on a secondary, non-interference basis).

In short, AMSC chose its method of seeking access to these bands in June, 1991, and its proposal was soundly rejected in the R&O.[19/] AMSC may seek reconsideration of this decision, but it absolutely cannot be permitted to pursue both its rejected proposal for use of the 1.6/2.4 GHz MSS frequencies as expansion bands for its domestic MSS system and a separate LEO system proposal for these bands -- indeed, it cannot pursue the latter except as a newly filed applicant. Among other things (see above), AMSC did not request use of the 2483.5-2500 MHz frequency bands until November 16, 1994, and it should not be permitted now to make the radical change to add these bands and still remain part of the current processing group. Such an exemption from the Commission's rules[20/] would be wholly inconsistent with prior Commission actions, which legitimately excluded non-compliant systems from new allocations in the interest of maximizing use of spectrum.[21/]

19/ See R&O, FCC 94-261, slip op. at ¶¶15-20.

20/ See 47 C.F.R. § 25.116 (1993).

21/ See Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for and to Establish Other Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of Various Common Carrier Services (Final Decision on Remand), 7 FCC Rcd 266, 273 (1992) (rejecting a LEO system proposal in bands now allocated exclusively to AMSC) (subsequent history omitted).

II. INTERSERVICE SHARING

A. Radio Astronomy Service

1. The Commission Must Not Grant The ESMU Veto Power Over The Use Of Beacon-Actuated Protection Zones By 1.6/2.4 GHz MSS Systems.

In its R&O, the Commission recognized that in order to protect radioastronomy ("RAS") sites from in-band interference from 1.6/2.4 GHz MSS systems, "more efficient solutions" than fixed radius protection zones -- e.g., beacon-actuated systems -- are likely to be developed to protect RAS sites from unacceptable in-band interference.[22/] TRW, which intends to employ a beacon-actuated system with Odyssey™, urges the Commission to reconsider its requirement that 1.6/2.4 GHz MSS systems may employ beacon-actuated protection zones in lieu of fixed protection zones in the 1610.6-1613.8 MHz band only "if a coordination agreement is reached between a mobile-satellite system licensee and the ESMU on the specifics of beacon operations."[23/] The new rule would give the ESMU effective veto power over the use of beacon systems by 1.6/2.4 GHz MSS systems, a power inconsistent with the co-primary status of the MSS and RAS in the 1.6 GHz band segment, and with the Commission's recognition that technically efficient alternatives to exclusion zones may be developed.

As the Commission notes in the R&O, the 1.6/2.4 GHz MSS Negotiated Rulemaking Committee ("NRM Committee") found that beacon systems could offer a

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22/ See R&O, FCC 94-261, slip op. at ¶ 104 and Appendix B, new rule § 25.213(a)(1)(i).

23/ See id. at Appendix B, new rule § 25.213(a)(1)(vii).

viable alternative to fixed radius protection zones.[24/] By rendering position determination capability unnecessary, beacon systems could also significantly reduce 1.6/2.4 GHz MSS system costs and enhance system efficiency, thereby lowering both equipment prices and rates for the user public.

While the need is obvious for coordination between 1.6/2.4 GHz MSS system licensees and the ESMU with regard to the use of beacon systems, and TRW expects to undertake such coordination in good faith, TRW urges the Commission to consider alternative means (e.g., waiver requests or petitions for declaratory ruling) by which such licensees may employ beacon systems in the event that they cannot reach agreements with the ESMU. In other words, the Commission should state that while coordination agreements between 1.6/2.4 GHz MSS systems and the ESMU are the preferred approach, the Commission itself will be the final arbiter of any unresolvable disputes.[25/] TRW also requests clarification that, if an 1.6/2.4 GHz MSS system licensee either reaches a coordination agreement with the ESMU regarding the use of a beacon system or obtains Commission authority to employ such a system prior or subsequent to the date that its satellite system becomes operational, that system need not offer position determination capability.

24/ See id. at ¶ 103.

25/ The Commission should also clarify that the co-primary status of the RAS in the 1.6 GHz band requires that the RAS community cooperate with any 1.6/2.4 GHz MSS system licensee in the installation of beacon transmitters at RAS sites.

2. The Commission Should Allow Mobile Earth Stations Operating With 1.6/2.4 GHz MSS CDMA Systems To Protect RAS Sites From Out-Of-Band Interference By Attenuating Uplink Emissions To A Specified Level.

In its R&O, the Commission required that the out-of-band emissions of mobile earth stations licensed to operate within the 1610.0-1626.5 MHz band be attenuated so that the power flux density they produce in the 1610.6-1613.8 MHz band at specified RAS sites does not exceed the emissions of a mobile earth station operating within the 1610.6-1613.8 MHz band at the edge of the protection zone for those RAS sites.[26/] As an alternative, the Commission required that 1.6/2.4 GHz MSS mobile earth stations not operate during RAS observations in the 1613.8-1615.8 MHz band within 100 km of certain specified RAS sites, and within 30 km of other such sites.[27/]

TRW urges the Commission to provide, as a third alternative, that mobile earth stations transmitting in the 1613.8-1626.5 MHz band may limit out-of-band emissions so as not to exceed -178 dB(W/m^2/1MHz) during observations at the RAS sites listed in new rule Section 25.213(a)(1)(i) and -138 dB(W/m^2/1MHz) during observations at the sites listed in new rule Section 25.213(a)(1)(ii). This alternative, which TRW first proposed in its Comments, would fully protect RAS sites from unacceptable out-of-band emissions while also defining those emissions in a form that

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26/ See R&O, FCC 94-261, slip op. at Appendix B, new rule Section 25.213(a)(1)(iii).

27/ Id.

would benefit 1.6/2.4 GHz MSS systems and the RAS community alike.[28/] The Commission considered and accepted the alternative formulations proposed by the RAS community for such protection, but did not consider the contingent proposal offered by TRW.

As TRW previously observed, 1.6/2.4 GHz MSS systems using CDMA channels with bandwidths in excess of one megahertz will produce a significant out-of-band spectral roll-off across the adjacent one megahertz band. By using an out-of-band emission limit defined in terms of a one megahertz reference bandwidth, the Commission will facilitate consideration of the average power. Such a measurement will be of far greater use to the RAS community than would a worst-case, per-hertz value, and will therefore maximize protection of RAS sites while minimizing disruptions to normal 1.6/2.4 GHz MSS system operations.

B. Aeronautical Radionavigation Service

In the R&O, the Commission states that "international Radio Regulation 731F [actually 731E] provides that MSS earth stations operating with MSS space stations cannot radiate an equivalent isotropically radiated power (e.i.r.p.) density greater than -15 dB(W/4KHz) in that portion of the band used by systems operating in accordance with RR 732, and -3 dB(W/4KHz) in bands not so used."[29/] This ITU regulation also provides that "[s]tations of the mobile-satellite service shall not cause

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28/ See Comments of TRW Inc., CC Docket No. 92-166, at 123-24 (filed May 5, 1994) ("TRW Comments").

29/ R&O, FCC 94-261, slip op. at ¶ 123.

harmful interference to, or claim protection from, stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 732 and stations in the fixed service operating in accordance with the provisions of No. 730."[30/]

Although the directives of RR 731E are not, taken together, a model of clarity, TRW submits that the e.i.r.p. limits set in RR 731E would be pointless if an 1.6/2.4 GHz MSS system abiding by those limits could still cause "harmful interference" to systems operating in accordance with RR 732. The reference to "harmful interference" can only have been intended to apply to systems that do not comply with the regulation's e.i.r.p. limits. A 1.6/2.4 GHz MSS system that abides by RR 731E's e.i.r.p. limits, therefore, should be held by the Commission to occupy a safe harbor -- one from which it cannot, by definition, cause harmful interference to stations operating under RR 732 and RR 730. TRW urges the Commission to confirm that 1.6/2.4 GHz MSS systems that comply with RR 731E's e.i.r.p. limits will not be required to provide any additional interference protection to stations operating under RR 732 and RR 730.[31/]

C. Sharing with Fixed Services in the S-Band

In the R&O, the Commission stated that the power flux density ("pfd") values of ITU Radio Regulation 2566 would be treated as "trigger" levels for

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30/ ITU, Radio Regulation 731E (Malaga-Torremolinos 1992).

31/ Id.

coordination (rather than absolute limits).[32/] Although the Commission recognized that international efforts are under way to relax the pfd trigger value for 1.6/2.4 GHz MSS systems in the 2483.5-2500 MHz band, it declined to provide any current relief from these limits for domestic operation.[33/] There is no dispute that increased pfd operating levels would substantially increase system capacities and enhance spectrum efficiency.

TRW's application for Odyssey™, as recently amended, is within the current pfd threshold. Nevertheless, TRW requests that the Commission announce that it will permit 1.6/2.4 GHz MSS operators to obtain interim waivers of this restriction for purposes of domestic operation prior to any change in the international regulation itself. TRW's Odyssey™ can use its power control capability in the downlink prior to a global change in the pfd trigger value, and work done by the 1.6/2.4 GHz MSS applicants in the course of this proceeding has established that a relaxed pfd threshold in these bands is warranted. In this last regard, TRW urges the Commission to continue to work toward global relaxation of the pfd trigger value through the ITU Radiocommunication Bureau's Task Group 2/2 with an eye toward establishing a less stringent threshold at the 1995 World Radiocommunication Conference ("WRC"), and certainly no later than the 1997 WRC.

32/ See R&O, FCC 94-261, slip op. at ¶¶ 147 & 149.

33/ Given the global nature of 1.6/2.4 GHz MSS systems, TRW also urges the Commission to work within the ITU to have such an interpretation of RR 731E implemented internationally.

D. ITFS/MMDS

In the R&O, the Commission determined that the potential impact upon 1.6/2.4 GHz MSS downlinks from harmful out-of-band interference by Instructional Television Fixed Service ("ITFS") and wireless cable ("MMDS") facilities operating in the S-band is not so well understood or documented that the Commission can make a definitive determination on how to handle such interference. Accordingly, it concluded that it does not need to initiate a proceeding to alter the limits on ITFS/MMDS "at this time."[34/]

TRW does not take issue with this conclusion. Nonetheless, it urges the Commission to clarify that existing rules place upon ITFS/MMDS operators the responsibility to ameliorate any harmful out-of-band interference to 1.6/2.4 GHz MSS operators below 2500 MHz that does result.[35/] For this reason, the Commission should affirm that, in the event that such interference does occur, it is the interfering ITFS/MMDS operators that must take immediate remedial measures at their own expense to cease such interference.[36/]

34/ R&O, FCC 94-261, slip op. at ¶ 158.

35/ Licensees causing harmful interference outside of their licensed bands are responsible for taking steps to cease the interference and are not entitled to payments from the licensees with which they interfere. See, e.g., 47 C.F.R. 74.936 (1993) (ITFS licensees may be required to attenuate transmissions to ameliorate interference outside their assigned channels).

36/ In this regard, TRW is advocating an out-of-band emissions policy for ITFS that is not substantially different from the one the Commission has imposed on 1.6/2.4 GHz MSS mobile earth station users in the bands adjacent to the upper limit of the RAS band at 1613.8 MHz. Indeed, the obligations on ITFS operators should be more stringent, since they have no right to operate below 2500 MHz.

III. FEEDER LINKS

A. Band Availability

The Commission decided in the R&O to withhold specific feeder link assignments until sufficient spectrum is available to accommodate all qualified applicants.[37/] The Commission stated that it would continue to pursue additional frequency bands for feeder links, including bands at and below 15 GHz, and it vowed to "allow licensees to modify their licenses to request any new bands if, and when, they become available."[38/]

In its recently filed amendment, TRW made clear that it would proceed with the construction of 20/30 GHz band feeder link capacity in the event that its application is granted and no other appropriate feeder link spectrum is made available on a timely basis. If sufficient feeder link spectrum is made available for the 1.6/2.4 GHz MSS service at or below 15 GHz,[39/] however, TRW would expect to be provided with an opportunity to modify its system authorization to specify feeder links in the lower frequency range(s).

37/ See R&O, FCC 94-261, slip op. at ¶ 166.

38/ R&O, FCC 94-261, slip op. at ¶ 169.

39/ It is believed that C- and Ku- band frequencies may be available for this purpose, either on a co-directional or reverse-band working basis with respect to those bands now heavily used or available for use by geostationary fixed-satellite service systems.

B. LEO-GSO Sharing In The Feeder Link Bands

In their Comments on the NPRM, TRW and Motorola drew the Commission's attention to inconsistencies between proposed new rule Sections 25.278 and 25.203(k), and to the fact that then-proposed Section 25.203(k) deviated materially -- and without explanation -- from the conclusions of the MSS Above 1 GHz Negotiated Rulemaking Committee ("NRM Committee").[40/] These concerns were not addressed in the R&O, and the Commission left new Section 25.203(k) virtually unchanged from its proposal. Section 25.203(k), to the extent it imposes obligations on 1.6/2.4 GHz MSS space stations, improperly relegates 1.6/2.4 GHz MSS systems to secondary status in the FSS bands. The Commission should now modify that section to make it consistent both with Section 25.278 and with the unanimous conclusions of the NRM Committee.

The NRM Committee recommended that, for domestic coordination purposes, the Commission's regulations for operators of non-geostationary and geostationary FSS systems licensed or to be licensed by the Commission should include "a requirement in Part 25 of the FCC's rules that affected operators coordinate their use of the shared bands. Domestic coordination would occur regardless of whether the geostationary FSS or non-geostationary system is the first to be operational."[41/] New rule Section 25.278 adopts the language recommended by the NRM Committee, placing upon non-geostationary systems and geostationary FSS

40/ See TRW Comments at 142-47; Motorola Comments at 59 & n.44.

41/ See NRM Committee Report at 30; TRW Comments at 143-44.

systems equal coordination obligations. TRW fully supports the requirements of Section 25.278.

As TRW explained in its Comments, the NRM Committee intended that the rule embodied in Section 25.203(k) merely strengthen the coordination requirements of Section 25.278. The rule language proposed by the NRM Committee was directed at any applicant for an earth station that will operate with either a geostationary or a non-geostationary satellite in a frequency band in which a non-geostationary system is (or is proposed to be) licensed for feeder links. Such applicants were to be required to show that they would not cause unacceptable interference to any operational satellite system, or, alternatively, to certify that their earth station operations would conform to coordination agreements entered into by extant satellite operators in the band.[42/]

In contrast, new rule Section 25.203(k) would impose demonstration/certification requirements on any applicant for a non-geostationary 1.6/2.4 GHz Mobile-Satellite Service space station or earth station that will operate with a geostationary or non-geostationary system in a frequency band in which a non-geostationary system is or is proposed to be licensed for feeder links. Under Section 25.203(k), the 1.6/2.4 GHz MSS space stations are required -- in ways that are not apparent -- to protect geostationary systems from unacceptable interference. This

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42/ TRW Comments at 144.